

July 13, 1959

Dr. Lloyd Berkner
Associated Universities, Inc.
Suite 1750, Coliseum Tower
10 Columbus Circle
New York 19, New York

Dear Dr. Berkner:

I am happy to acknowledge, as I already have to Dr. Bronk, the acceptance of my appointment to the Space Science Board. I do not lack for other responsibilities in my own university and laboratory work but am pleased to be able to make some contribution to this important mission. One of its challenges is the need to assimilate contributions from many different sciences and to communicate effectively with the workers in them.

I must assume that I was co-opted to represent the particular problems of planetary biology and the need to set up both conservative standards and constructive operations in the biological investigation of the Moon and the planets. One of our most urgent needs is to establish a definite focus for scientific interest in this field. During the past year and a half, this has grown in an encouraging fashion. As a direct consequence, however, we may face a frustrating duplication and confusion of effort which there may still be time to forestall. The BioAstronautics Committee, I am sure, will have discussed this problem with the Space Science Board and I would be most interested to learn of any conclusions. Given a certain amount of common sense, there need be no serious waste in the concurrent interests of these groups. I have to say, however, that the responsibilities of the BioAstronautics Committee in relation to planetary biology have been a point of great confusion to me and some of my colleagues. The practical way that this can manifest itself is in making it difficult to sustain the interest and services of talented people who do not have the time to sit on several committees.

(this repetition)

Meanwhile, I have also heard from Burr Steinbach of the NRC Division of Biology in Medicine, that he has been charged to set up another committee on extraterrestrial life. I think now that it would be unfortunate to see such a group duplicate an effort that should already be strongly represented on the Space Science Board. Steinbach feels, and I certainly agree, that it is important to have an "advanced thinking group" which is uncommitted to military or other applications, but I would feel that this is precisely the function that should be the charge of the Space Science Board since, of course, operational responsibilities are vested in NASA and in the Department of Defense. I hope that you and Keffer Hartline will have a chance to discuss this problem with Dr. Steinbach at your early convenience. I would see no objection, and conceivably there may be some justification, to giving the same group of people two designations: one, to report to the NRC-NAS; the other as an element of the Space Science Board.

But why bother

The corollary to this is that a committee be established in the Space Science Board which is quite specifically devoted to the problems of extraterrestrial life. The kinds of problems we have to face have been more sharply delineated now and a vague reference to "biological, social, and behavioral sciences" is no longer an adequate frame of reference for such a committee. There has been much confusion in the minds of both the lay and the scientific public over the meaning of the expression "space biology." In fact, this means two very different things: the maintenance of man or other higher organisms in a space craft, and the investigation of independent evolutionary systems as may be represented on the planets. The technical backgrounds involved in these two aspects are quite different. Of course, these two disciplines do meet at a number of points, for example, in the construction of satellite experiments which seek on the one hand to investigate the effect of extraterrestrial environments on man and other terrestrial organisms or, alternatively on evolutionary processes on the planets. Unless the Space Science Board does give official cognizance to this special area of interest -- and it has, of course, to a considerable extent by my own appointment to it -- there is bound to be pressure for the establishment of still additional groups to consider these problems. I myself feel that the Space Science Board and the BioAstronautics Committee can between them more efficiently do this job at the advisory level without a further multiplication of independent committees.

We had a good meeting here the other day on tactical procedures for the decontamination of space probes. Dr. Derbyshire will doubtless be forwarding a more detailed report during the next week or two. Meanwhile, you might be interested to hear our conclusion that this problem can be licked without inordinate effort though a certain amount of additional research and developmental work is needed. Fortunately, the Physical Defense Section of the Biological Warfare Laboratories at Fort Detrick, Frederick, Maryland is superbly equipped both in experience and in facilities for this type of work. We are submitting a strong recommendation that this laboratory, under the direction of Dr. Charles Phillips, be given a contract for technical direction of decontamination procedures. The most efficient method in the circumstances seems to be fumigation with ethylene oxide, a now widely used method of sterilization which was largely developed in those laboratories. For certain spot situations, for example hermetically sealed containers which might tolerate the introduction of the ethylene oxide it may be necessary to use other methods, especially heat or radiation. It is important, however, that there be a unified direction to the whole program and we could hardly find another laboratory better capable of undertaking the job. Dr. Phillips has already indicated that his group would be willing to negotiate such a contract. I would just like to add, pending Dr. Derbyshire's report, my strong personal endorsement to this program. I might add that this was also the considered recommendation of the Westex group which has been reviewing this problem during the past six months.

Yours sincerely,

Joshua Lederberg
Professor of Genetics

*asked to visit
adj: 10/19-22.*